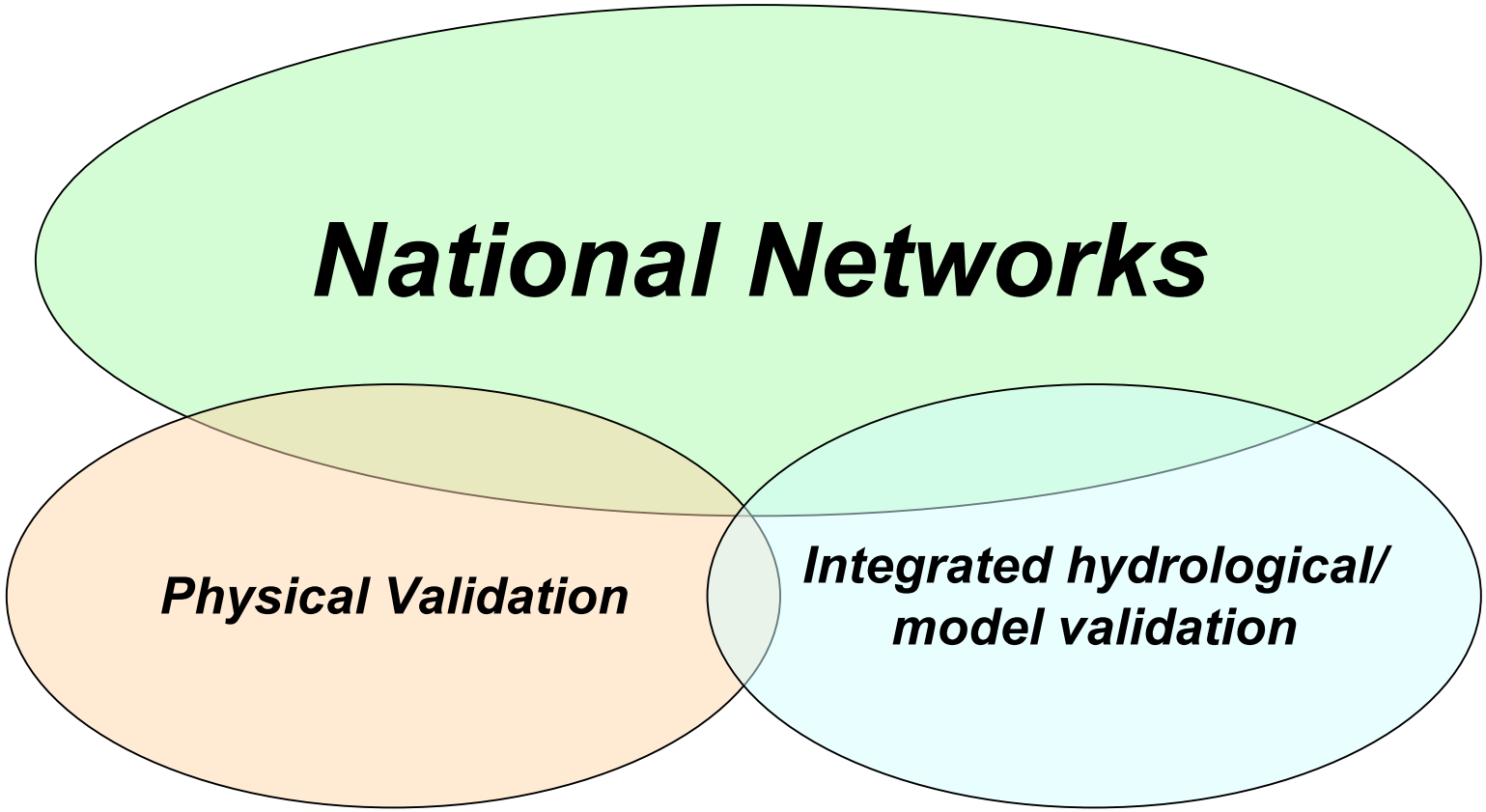

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Quality control issues

Necessary for validation & applicable to both radar and gauge

- What are the errors associated with the validation products?
- How do you calculate them?
- What do they really mean?
- What errors do you include?

(uncertanties vs errors? KK;KUK;UKK;UKUK…)

- Sourcing of data affects QC procedures (e.g. some national agencies QC the data, others don't)
- Instrument quality issues: expensive vs cheap *(ARG vs bottles)*
- Representativeness of validation data in certain regions (e.g. terrain)

Ongoing issues

- Target quality guidelines (e.g. # gauges, radar calibration…)
- Indicators of quality also needed (e.g. clutter, BB etc)
- Data set redundancy – over sampling of gauges and radar
- Error models – such as ensemble models (how practical are they?)

- OPERA – addressing error issues in radar products
- Chandra – working group on QC
- Guidelines needed for optimal networks: data density /temporal sampling issues, e.g.:

Gauges:AWS usually 1min/10min/1 hour, but if TBR 1min/10min is meaningless due to quantisation at low rain rates.

Radar data: not true integrated estimates since they are sums of instantaneous samples

Flexibility, accessibility & compatability

Toolkits

- Expansion of tools to read other non-supported data formats *(other analysis tools?)*

Statistical techniques

- Standardised statistical testing (e.g. expanded contingency table) – simple but meaningful